

## Abstract

A system for electronically actuating valves in an engine. The system includes a first voltage source, a second voltage source, and plural valve actuator subsystems coupled between the first voltage source and the second voltage source. Each valve actuator subsystem has a valve actuator and a switch. One of the actuator subsystems is configured so that current flows from the first voltage source through the valve actuator of the subsystem when the switch is in a first position, and when the switch is in a second position, current is permitted to flow from the valve actuator toward the second voltage source. Another of the valve actuator subsystems is configured so that current flows from the second voltage source through the valve actuator of the subsystem when the switch is in a first position, and when the switch is in a second position, current is permitted to flow from the valve actuator toward the first voltage source.